

Biospheric Sciences Highlights for May - June 2004

**** Code 923 research paper by Imhoff, Bounoua et al. highlighted in the Bulletin of the American Meteorological Society**

A Biospheric Sciences Branch research paper was highlighted in the Bulletin of the American Meteorological Society (Volume 85, No. 4, April 2004) in the NOWCAST section of News and Notes. This paper was previously highlighted in a press release in which Marc Imhoff and Lahouari Bounoua were interviewed. The citation for the paper is provided below:

"The consequences of urban land transformation for net primary productivity in the United States", Marc L. Imhoff (Code 923), Lahouari Bounoua (Code 923), Ruth DeFries, William T. Lawrence, David Stutzer (Code 923), Compton J. Tucker (Code 923), and Taylor Ricketts. 2004 Remote Sensing of Environment, Vol. 89, Issue 4, pp. 434-443.

**** WHO/FAO/OIE Joint Consultation on Emerging Zoonotic Diseases in Collaboration with the Dutch Health Council 3-5 May, 2004, Geneva, Switzerland**

Assaf Anyamba (Code 923) was invited by the World Health Organization (WHO) to present at a Consultation on Emerging Zoonotic Diseases organized by WHO, the Food and Agriculture Organization (FAO), and the Office International des Epizooties (OIE) in collaboration with the Dutch Health Council. This consultation was held in Geneva from 3 to 5 May 2004. Assaf Anyamba presented on behalf of the GIMMS Group (Code 923) a talk on "Satellite Monitoring Systems for Eco-Climatic Conditions associated with Zoonotic Diseases". The purpose of the Consultation was to review the recent past and current situation of the emerging zoonotic diseases, assess their public health consequences, their economical/sociological/political implications and identify the key risk factors for emergence. The consultation is expected to give direction and issue recommendations to the international community that will contribute to improve preparedness for emerging zoonotic diseases, develop/strengthen early warning systems for emerging zoonoses, identify means of assessing the risk of emerging zoonoses, identify ways to better prevent or contain emerging zoonoses, and propose the research themes to address key concerns regarding the emergence of zoonotic

agents.

**** Paper published in Nature--"Global Patterns of Human Appropriation of Net Primary Production"**

The paper "Global Patterns of Human Appropriation of Net Primary Production", by M. L. Imhoff (Code 923), L. Bounoua, (Code 923), T. Ricketts, C. Loucks, R. Harriss, and W. Lawrence, appears in the current issue of Nature, Vol. 429, June 24, 2004, pp. 870-73.

The amount of Earth's vegetation or net primary production (NPP) required to support human activities is powerful measure of aggregate human impacts on the biosphere. Biophysical models applied to consumption statistics were used to estimate the annual amount of net primary production in the form of elemental carbon required for food, fibre, and fuel-wood by the global population. The calculations were then compared to satellite-based estimates of Earth's average net primary production to produce a geographically accurate balance sheet of net primary production "supply" and "demand". Humans consume 20% of Earth's net primary production (1 1.5 petagrams in the form of elemental carbon) and this percentage varies regionally from 6% (South America) to over 70% (Europe and Asia), and locally from near 0% (central Australia) to over 30,000% (New York City, USA). The uneven footprint of human consumption and related environmental impacts, indicate the degree to which human populations that depend on net primary production 'imports' are vulnerable to climate change and suggest policy options for slowing future growth of NPP demand.

****Elissa Levine receives 2003 Association of Women Soil Scientists (AWSS) Mentoring Award**

Dr. Levine was selected to receive the award for her work with the Soil Characterization Investigation of the GLOBE (Global Learning and Observations to Benefit the Environment) Program, www.globe.gov, and her on-going efforts to educate youth about the soil science profession. The committee selects nominations each year for the award. For information, go to: www.awss.org.